



Dart Aerospace Ltd.
1270 Aberdeen St.
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D5807-5

Job Sheet 207511



Part No: D5807-5

Job Qty: 16 pcs

Part Name: Stringer



Part Weight: 0 lbs

Job Created: 2/27/20

Due Date: 3/27/20

Type: Stock

POSITIVE RECALL

EFFECTIVE 2/26/12 AUTH S.A.D.

Status: New

Priority: Medium

Job Tracking No:

Created By: Jennifer Renwick

Description:

Note: URF 2020-525 DWG D5807 Rev A IPP Rev. A 2020.02.14 New issue DP Verify DD

Ship Via:

POSITIVE
RECALL

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Large Fab - Basket - 4	16 pcs	3/27/20	3/27/20	0.00	3.20	Large Fab - 1		
							Large Fab - 10		
							Large Fab - 2		
							Large Fab - 3		
							Large Fab - 4		
							Large Fab - 5		
							Large Fab - 6		
							Large Fab - 7		
							Large Fab - 8		
							Large Fab - 9		
							Large Fab - 11 (Various)		
							Large Fab - 12		
110	QC 5	16 pcs	3/27/20	3/27/20	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
							QC 5 - 61		
							QC 5 - 81		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S264020



Part: D5807-5

Job No: 207511

Serial No/Batch: S264020

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 03/17/20

DAS
40
9-89

MAR 17 2020

Plex 3/11/20 3:55 PM Dart.Renwick.Jennifer

120	Packaging 3-1 - Stock - B4B	16 pcs	3/27/20	0.00 0.00	Packaging 3 - 1 - B4B	
					Packaging 3 - 2 - B4B	
					Packaging 3 - 3 - B4B	
					Packaging 3 - 4 - B4B	
					Packaging 3 - 5 - B4B	
					Packaging 3 - 6 - B4B	
					Packaging 3 - 7 - B4B	
					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	M4C
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
					Packaging 3 - 37 - B4B	
130	QC 21 - SA	16 pcs	3/27/20	0.00 0.00	QC 21 - SA - 21	
					QC 21 - SA - 70	
					QC 21 - SA - 53	MAR 17 2020

Part Op 100 - 1- Cut stringer as per dwg 2- Deburr
 Descriptions: 110 - QC5- Inspect part completeness to step on W/O
 120 - Identify as per dwg & Stock Location: U: A004
 130 - QC21- Final Inspection - Work Order Release

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NTS0.500W.035	4130 Square Tube .500 X .500 X .035W	24 ft (1.5 ea)	100-Large Fab - Basket - 1	S260577

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Large Fab - Basket - 1	M4130NTS0.500W.035	24	577	0

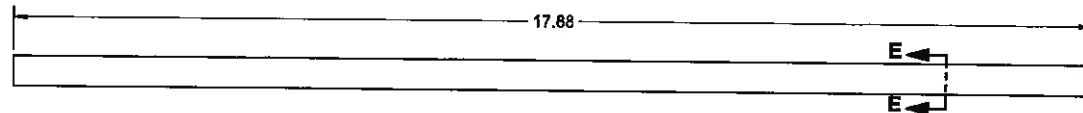
Part Specifications

Specifications could not be found.

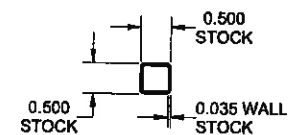
Plex 3/11/20 3:55 PM Dart.Renwick.Jennifer

8 7 6 5 4 3 2 1

D

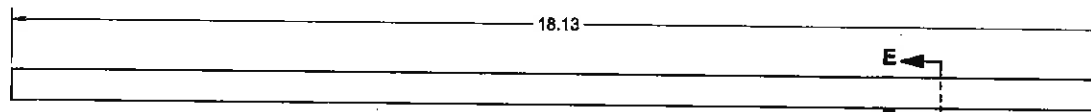


D5807-5 STRINGER



SECTION E-E

C



D5807-7 STRINGER

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 207511

B

UNDER REVIEW

URF 2020-525 20.02.20 (NO)

NOTES:

- 1) MATERIAL: AISI 4130N STEEL SQUARE TUBING, 1/2 X 0.035 WALL
PER MIL-T-8736 OR AMS 6371/6360/6361/6362/6373/6374
REF DART SPEC M4130N-TS0.500W.035
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.006 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: -5: 0.31 lbs
-7: 0.32 lbs

RELEASED

2020 FEB 19 *qf*



APPROVED

DESIGN	ZF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA REV. A SHEET 4 OF 5 SCALE NTS COPYRIGHT © 2020 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. ANY DISSEMINATION TO ANY OTHER PERSON OR ENTITY WITHOUT PERMISSION FROM DART AEROSPACE LTD.
DRAWN	ZF	
CHECKED	KPT	
MFG. APPR.	DD	
APPROVED	NO	
DE APPR.	CP <i>qf</i>	
DATE	20.01.21	DRAWING NO. D5807 TITLE MEDIUM LID ASSY

8 7 6 5 4 3 2 1

A

A

		Dart Aerospace Ltd. 1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada Tel (613) 632-5200		PURCHASE ORDER POHB045883 	
Supplier: FAC001-VU Factory Steel 14020 Oakland Ave. Detroit, MI 48203 USA Phone: 313 883 6300 Fax: 313 883 4883		PO No: POHB045883 PO Date: 2/18/20 Due Date: 2/28/20 Purchase Order Revision: Revision Date: FEB 19 2020 Issued By: Laviole, Chantal Phone: 613-623-5200 Ext: 242 Fax: 613-632-1053 clavoie@dartaero.com		Ship To: 1270 Aberdeen Street Hawkesbury ON K6A 1K7 Canada Phone: 613-632-5200	
		Via: Ground Print Terms: Net 30 Freight Terms: Special Comments:			

Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Resolved Quantity	Balance	Unit Price (USD)	Extended Price
1		M4130NTS0.500W.035			4130 Square Tube .500 X .500 X .035W MATERIAL: AISI 4130N STEEL TUBING AS PER MIL-T-6735 OR AMS 6371/6360/6361/6362 6373/6374 receive ft	Firmed		2/28/20	600 ft	0 ft	600 ft	\$6.49/ft	\$3,894.00
Grand Total:													\$3,894.00

Order Notes	
Procurement Quality Clauses A005 right of entry A012 chemical and physical test report A016 personnel qualification A017 raw material identification (as applicable). No Raw Metals from China or Soviet Bloc Countries. (DFARS) A026 certification of material conformance A041 quality management system A042 dart notification by supplier A043 retention of quality documents A048 counterfeit parts avoidance, detection, mitigation and disposition program. A049 supplier awareness.	
Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.	

Plex 2/19/20 2:52 PM Dart,Laviole,Chantal

PACKING LIST

No. 67811

PG 1 OF 1

FACTORY STEEL & METAL SUPPLY
14020 OAKLAND AVENUE
DETROIT, MI 48203

(313)883-6300 PHONE
(313)883-4883 FAX

SOLD TO
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

CUSTOMER PO
POHB045883
CUSTOMER JOB

SALES ORDER
60752

ORDER DATE
02/19/2020

SHIP TO
DART AEROSPACE
1270 ABERDEEN STREET
HAWKESBURY, ON K6A 1K7

BUYER
CHANTEL LAVOIE
Tel (613) 632-3336
Fax (613) 632-4443

SALES REP
MICK HALON

SHIP INST
CALL WHEN READY
PRO#

TERMS
NET 30 DAYS

SHIP DATE
02/21/2020

SHIP VIA
****TRUCK****

RESALE #
59-2958719

CARRIER
TRUCK

BLIND Y/N
N

FOB
DETROIT

LINE	QUANTITY	DESCRIPTION	WIDTH	LENGTH	WEIGHT
1	611.667 FT	<p>PACK IN CARDBOARD TUBE</p> <p>4130N CD SMLSS SQ TUBE 1/2" X .035W MILT-6736</p> <p>Tag M11 Ref # Heat</p> <p>154506 023914 25537</p> <p>MTRS (CIRCLE) FAX SHIPMENT INVOICE ALL</p> <p>DATE: INITIAL:</p>	21' / 24' RL	21' / 24' RL	135.361
TOTAL WT		135 LBS			
RECEIVED BY - SIGNATURE		RECEIVED BY - PRINTED NAME		DATE RECEIVED	

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M4130NT50.520W.035 PO / BATCH NO.: P0480Y5003
 DATE: MAR 04 2020 5260577

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 611 FT
 QUANTITY INSPECTED: 611 FT
 QUANTITY REJECTED: 0

THICKNESS ORDERED: .500X.520 W.035
 THICKNESS RECEIVED: .500X.520 W.035
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> N	MIL-T-6736
CORRECT THICKNESS	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> N	HIT 25537
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC IS INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>—</u>	DATE: <u>MAR 04 2020</u>	SIGNED OFF BY: <u>—</u>	DATE: <u>—</u>

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

LIME1

M4130NTS0.500W.035

10413045883



DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED [Signature]	APPROVED [Signature]	DRAWING NO. M4130N-TS	REV. A SHEET 1 OF 1
DATE 05.02.09		TITLE 4130N SQUARE TUBING	SCALE NTS
A	05.02.09	NEW ISSUE	

PURCHASE MATERIAL:

AISI 4130N STEEL SQUARE TUBING PER ONE OF
THE FOLLOWING SPEC'S MIL-T-6736, AMS 6371,
6360, 6361, 6362, 6373 OR 6374

DAS
[Signature]

PART NUMBER: M4130N-TS | A.AAA | W | .ITT |

WHERE A.AAA = WIDTH IN INCHES
ITT = WALL THICKNESS IN INCHES

EXAMPLE: 0.50" X 0.035" WALL = M4130N-TS0.500W.035

05.03.05 [Signature]

Copyright © 2005 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



1200 East 12th Street, Detroit, Michigan 48203
Phone: (313) 873-1815 Fax: (313) 872-7533

TRUST YOUR SOURCE ACCEPT NO SUBSTITUTIONS

PRODUCT CERTIFICATION

SALES ORDER LINE / RLS

175087 - 1 / 0

SHIP TO

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 023914

HEAT NUMBER 25537

MELT SOURCE Tinkon Steel

PCS/HEAT

0

DAS

9-02

Melt/Mfg. USA

CUSTOMER P.O. 3999	CUSTOMER PART SQ-N12035	QUANTITY	LADING NO	CERT ID / REV	CERT DATE								
PART DESCRIPTION SHSQ0500035J200 ***** Square OD ***** Side1: 0.5000 Max:0.5100 Min:0.4900 Side2: 0.5000 Max:0.5100 Min:0.4900 Wall: 0.0350 Max:0.0380 Min:0.0320 Length: 10.0000 Spec: MIL-T 6736B Seamless Aircraft Grade: 430 Anneal: Cond N													
CERTIFICATION REQUIREMENTS FAR BAA (FAR 52.225-1 Buy America Act Supplies), DFARS 252.225-7001 Buy America Act & Bal. of Payments Program, FAR TAA (FAR 52.225-6 Trade Agreements Program) and this material was tested in accordance with the requirements of ASTM A-450. The Grain size is determined and reported by the raw material supplier in accordance to ASTM E-112. This raw material was magnetic particle inspected by the raw material supplier in accordance to AMS 2640.1 and/or ASTM E-1444, and rated as Frequency and Severity to AMS 2301, latest revision. Yield is determined by using the 0.2% offset method. Additional Specifications - AMS-T 6736B, 6380P & 6371L. Material produced in accordance to ASTM A-819-17. Jominy results: J(5/16")=38 J(8/16")=31.													
Chemical Analysis													
C	Mn	P	S	Si	Al	Cr	Mo	Ni	Pb	Cu	V	Ti	Sn
.30	.56	.008	.005	.29	.025	1.02	.20	.13	.000	.18	.009	.003	.009
Physical Properties													
Frag.	Severity	Grain Size											
.000	.000	7											
Mechanical Properties													
TEST	UNITS	#TESTS	HIGH	LOW	AVERAGE	STD-DEV							
Tensile	Psi	6	121110	115340	118173	2536							
Yield	Psi	6	115370	109700	112525	2436							
Elongation	%	6	17	17	17	0							
Rockwell C	Rc	6	22	22	22	0							
TEST	RESULT												
Decarb/OD	Pass												
Total/OD decarb	Pass												

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company. Streater in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

James D. Smith
Quality Assurance



PLYMOUTH TUBE CO.

300 West 12th Street, Streator, Illinois 61364

Phone: (815) 673-1995 Fax: (815) 672-7345

TEST YOUR SOURCE AGAINST NO SUBSTITUTIONS

PRODUCT CERTIFICATION

SALES ORDER - LINE / RLS

179307-1 / 0-

SHIP TO:

Factory Steel & Metal Supply C
14020 Oakland Avenue
Detroit, MI 48203
USA

WORK ORDER 02307

HEAT NUMBER 25537

MELT SOURCE Amken Steel - Melt/Mfg. USA

PCS/HEAT 0

CUSTOMER P.O. 3999	CUSTOMER PART SQ-N12035	QUANTITY	LADING NO	CERT ID / REV /	CERT DATE
PART DESCRIPTION SHSQ0500035J200					
Additional Specification(s)					
TEST Brinell	UNITS Brinell	TESTS 0	HIGH 251	LOW 197	AVERAGE 225
					STD-DEV 27
<p>This test report data is for the heat Chemistry Stated above.</p> <p>The material in this test report is:</p> <ol style="list-style-type: none"> 1) Drawn in the USA 2) Free from Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE), and Mercury contamination. 3) NAFTA compliant. <p style="text-align: right;">End of Certification</p>					

DAS
300
9-99

I certify that the results are a true and correct copy of the records prepared and maintained by Plymouth Tube Company, Streator in compliance with the requirements of the cited specification. Chemistry is as reported by the Steel supplier. This test report cannot be reproduced or distributed except in full without the written permission of Plymouth Tube.

Janine Derossini
Quality Assurance

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____		DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/>		DEPARTMENT/PROCESS <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div style="width: 50%;"> Cross tube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> </div> <div style="width: 50%;"> Eng. (Non-AW) <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> </div> <div style="width: 50%;"> Engineering <input type="checkbox"/> Water Jet <input type="checkbox"/> Supplier <input type="checkbox"/> Quality <input type="checkbox"/> </div> </div>					
Date :		Sequence #:		QTY Affected :			MRB (QSI042) <div style="border: 1px solid black; height: 100px; width: 100%;"></div>		
Description Work Order Deviation				Disposition					
								Completed By <div style="border: 1px solid black; height: 80px; width: 100%;"></div>	
								Lead hand / Supervisor <div style="border: 1px solid black; height: 80px; width: 100%;"></div>	
Root Cause <div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Presservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div>		FAULT CATEGORY <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Bending <input type="checkbox"/> Crushing <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Mislabeled </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Incomplete/Unclear Instructions <input type="checkbox"/> Drill Holes <input type="checkbox"/> Fit/Function </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain Direction <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Off-set/Set-up </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Outside Tolerance <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Misread </div> </div>							
		Other/Details: <div style="border: 1px solid black; height: 80px; width: 100%;"></div>							